W	ork	Order	ID	109091

\*109091\*

Page 1

November-11-13 1:49:07 PM Item ID: D2054 Accept \*N900040100\* Setup Start **Revision ID:** Item Name: Bushing - Delrin \*40\* **Start Date:** 11/11/13 **Start Qty: 40.00 Cust Item ID:** Required Date: 11/25/13 Reg'd Otv: 40.00 \*40\* **Customer:** Reference: Run Process Plan: MUD Date: 13-11-11 Tooling: Approvals: Date: \_\_\_\_ Stop Date: **SPC (Y/N):** Date: QC: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Accept Reject Reject Insp. Work Center ID Description **Run Hours** Code Number Stamp Qty Qty **Draw Nbr** Revision Nbr D2054 Rev B 100 0.00 Hardinge CNC LATHE SMALL 4340 \*100\* F. 13/11/15 Hardinge Memo Hardinge CNC Lathe Small Machine as per folio FA Deburr OC2- Inspect parts off machine FAI/FAIB 0.00 FK 13/11/15 47 45 Ø \*110\* Memo Quality Control 120 OC8- Inspect parts - second check 0.00 13/11/16 47 Ø \*120\* 0.00 Memo Quality Control

DQA:			Date:	<u></u>									TRAC
QA Closed:			Date:			WORK ORDER NON-	-CC	ONFO	RMANCE / UPDATE	\٨/	ork Order up	ndate only	AEROSPACE
QA Closed.			Date.				1		:: <del>-</del>			•	
Work Orde	er:					DISPOSITION			AGAINS	T DE	PARTMENT	/PROCESS	
	•					Rework			Skid-tube Crosstub	e	]	Water Jet	Engineering
Part N	lo.					Scrap			Machining Small Fa	b	Pro	d. Eng. Coor.	Quality
NCD A						Use-as-is		Therr	noforming Finishir	_	Rec/Stor	e/Packaging	Other
NCR N	NO					Suspected Unapproved			Large Fab Composit	.e	j	Supplier	
Root					Desc	ription of work order update	Ī	nitial	Action		Sign &		
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Description		Date	Verification	QC Inspector
Design		,											
Doc/Data													
Equip/Tooling													
Handling/Pre													
Material											:		
Operator													
Offset/Setup		!											
Process													
Supplier													
Training													
Transport													
Unapproved													
							FA	ULT CA	TEGORY				· 
Landi	ng (	Gear				General		_			-	_	_
		Bending				Bend		Folio/F	Program		Outside Dim	ensions	Pressure/Forced
		Centre No	ot Concer	ntric		BOM/Route		Grain		L	Over/Under	tolerance	Set-up
		Cracks				Broken/Damage/Defect	<u> </u>	Hardwa	are		Part Incorre	ct	Temperature/Cure
		Crimp/Kir	nk/Ripple	/Wave	L	Burrs		Inspect	ion Incomplete/Unqualified		Part Lost/Mi	ssing	Weld
	L	Cuffs				Contamination		Instruc	tions Incomplete/Unclear	L	Part Moved		Wrong Stock Pulled
		Crushing				Countersink		Misali	gned/off center		Positioned V	Vrong	_
		Heat Trea	it			Cut Too Short		Mislab	eled		Power Loss/	Surge	Other
		Inspection	n Strip in	Tube		Drawing		Misrea	d				
		Marks/Ch	natter			Drill Holes		Off-set					
		Turning S	equence			Finish		Out of	Calibration				
		Wave/Tw	ist in Tub	oe .		Fit/Function		Out of	Sequence				

# \*109091\*

Page 2

November-11-1.	3 1:49:07 PN	1							
Item ID: Revision ID:	D2054			Accept	*N900	04010	<b>)*</b> Setu	p Start	*NS1*
Item Name:	Bushing - Del	rin						Stop	*NS2*
Start Date:	11/11/13	Start Qty: 40.00	*40*		Cust Item I	D:			
Required Date:	11/25/13	<b>Req'd Qty:</b> 40.00	*40*		Customer:				
Reference:							Run	Start	
Approvals:	Process Pla	an:	Date:	Tooling:	Da	ate:	Kun		*NR1*
	QC:		Date:	<b>SPC (Y/N):</b>	Da	ate:		Stop	*NR2*
Sequence ID/ Work Center II	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool # Plan Code			Reject Insp. Number Stamp
130		Identify as per dwg & Sto	ock Location: <u>64</u>	0.00				540	
*120* Packaging		Memo		0.00			47x	28 / 9-89	3-11-18
Packaging		OCAL First Version	Wal O la Palace	0.00				1	1 AA
*1 <b>4</b> 0		QC21- Final Inspection -	Work Order Release	0.00			1-	3/11	120 4
QC Quality Control		Memo		0.00				<u>/ '</u> '	

R13-11-19

DQA:			Date:										`	
						WORK ORDER NON-	-CC	ONFO	RMANCE / UPDATE		101		_	AEROSPACE
QA Closed:			Date:							W	ork Order up	date only		
Work Ord	er.					DISPOSITION			AGAINST	ΓDE	PARTMENT	/PROCESS		
Work Ord	٠					Rework	1		Skid-tube Crosstube	<u></u>	1	Water Jet	$\neg$	Engineering
Part I	No.					Scrap			Machining Small Fab	-	Pro	d. Eng. Coor.	1	Quality
	•					Use-as-is	1	Therr	moforming Finishing	$\mathbf{g}$	Rec/Sto	re/Packaging	7	Other
NCR I	No.				<u> </u>	Suspected Unapproved			Large Fab Composite	-	]	Supplier		
Root					Desc	ription of work order update		nitial	Action		Sign &			
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Description		Date	Verification		QC Inspector
Design									İ				١	
Doc/Data														
Equip/Tooling	Ш													
Handling/Pre	Ш		:											
Material														
Operator														
Offset/Setup				!			l							
Process	<u> </u>						1							
Supplier	_											ļ	1	
Training	L													
Transport	_												-	
Unapproved			<u> </u>		<u> </u>						<u></u>		L	
							FA	ULT CA	TEGORY					****
Landi	ing (	1				General		1 /	_	_	7	. г	一.	
	_	Bending	_		<u> </u>	Bend	<u> </u>	4 `	Program	-	Outside Dim	<u> </u>	_	Pressure/Forced
	<u> </u>	Centre No	ot Concer	ntric		BOM/Route	<u> </u>	Grain		$\vdash$	Over/Under			Set-up
	$\vdash$	Cracks				Broken/Damage/Defect	_	Hardw		$\vdash$	Part Incorre		_	Temperature/Cure
	<u> </u>	Crimp/Kii	nk/Ripple	/Wave	<u> </u>	Burrs	<u> </u>	1 .	tion Incomplete/Unqualified	$\vdash$	Part Lost/M	issing		Weld
İ	$\vdash$	Cuffs			<u> </u>	Contamination	$\vdash$	4	tions Incomplete/Unclear	$\vdash$	Part Moved	L	'لــــ	Wrong Stock Pulled
	<u></u>	Crushing			$\vdash$	Countersink	<b>—</b>	4	gned/off center	$\vdash$	Positioned V		_	0.1
	$\vdash$	Heat Trea			<u> </u>	Cut Too Short	<u></u>	Mislab			Power Loss/	Surge [		Other
	$\vdash$	Inspectio	-	Tube	<u> </u>	Drawing	<u></u>	Misrea						
	<u></u>	Marks/Cl			<u> </u>	Drill Holes	$\vdash$	Off-set						
	<u></u>	Turning S			<u> </u>	Finish	$\vdash$	4	Calibration					
!	1	Wave/Tw	vist in Tub	эe		Fit/Function		Out of	Sequence					

November-11-13 1:49:11 PM

Work Order ID: 109091

\*109091\*

Parent Item:

D2054

\*D2054\*

Parent Item Name:

Bushing - Delrin

**Start Date: 11/11/13** 

Required Date: 11/25/13

**Start Qty: 40.00** 

Required Qty: 40.00

Comments:

IPP A1 03.01.21 Revise Dwg Rev B; added Black Teflon or Delring: Made

on Cobra RF

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Primary Item Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
*MDELRINR1.000		Purchased	No		120	f	33.4600	0.0583	3			
TALE OIL	ID4 000	<b>\ +</b>						44				

\*MDFIRINR1 000\*
Delrin Round Bar 1"

Location	Loc Qty	Loc Code		
MAT	1.46		<del></del>	
<b>★</b> m126794	1.46		2.5	_
MAT018	32		F	X
m127442	32		<u> </u>	

Could not pull motil!

DQA:			Date:											•
QA Closed:			Date:			WORK ORDER NON-	-CC	ONFO	RMANCE / UPDATE	W	ork Order up	odate only	AEROSPACE	
						DISPOSITION			AGAINS		PARTMENT			
Work Orde	er: -					Davis etc			Child to be Connective		1	Water Jet	T Engineering	
Part N	lo. -			·		Rework Scrap Use-as-is			Skid-tube Crosstub Machining Small Fa noforming Finishin	b	4	d. Eng. Coor.	Engineering Quality Other	
NCR N	۱٥٠.					Suspected Unapproved		mem	Large Fab Composit	~⊢	, Recystor	Supplier		
Root					Desc	ription of work order update	П	nitial	Action		Sign &			_
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Description		Date	Verification	QC Inspector	1
Design				-				-						
Doc/Data														
Equip/Tooling														
Handling/Pre														
Material														
Operator						!								
Offset/Setup												i		
Process							ļ		<u> </u>					
Supplier				1										
Training														
Transport							Ì							
Unapproved									,					
							FA	ULT CA	TEGORY					
Landi	ng (	Gear				General					_			
		Bending				Bend		Folio/F	Program		Outside Dim	ensions	Pressure/Forced	
		Centre N	ot Concer	ntric		BOM/Route		Grain			Over/Under	tolerance	Set-up	
		Cracks				Broken/Damage/Defect		Hardwa	are		Part Incorre	cí [	Temperature/Cure	
		Crimp/Kii	nk/Ripple	/Wave		Burrs		Inspect	ion Incomplete/Unqualified		Part Lost/M	ssing	Weld	
		Cuffs				Contamination		Instruc	tions Incomplete/Unclear		Part Moved		Wrong Stock Pulled	
		Crushing				Countersink		Misalig	gned/off center	Г	Positioned V	Vrong		
		Heat Trea	at			Cut Too Short		Mislab	eled	Γ	Power Loss/	Surge	Other	
		Inspectio	n Strip in	Tube		Drawing		Misrea	d					
		Marks/Cl				Drill Holes	Γ	Off-set						
		Turning S				Finish		Out of	Calibration					
		Wave/Tw				Fit/Function	Г	Out of	Sequence					

DART AEROSPACE LTD	Work Order:	109091
Description: Bushing	Part Number:	D2054
Inspection Dwg: D2054 Rev: B		Page 1 of 1

# FIRST ARTICLE INSPECTION CHECKLIST

X	First Article		Prototype
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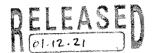
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø1.00	+/-0.030	1,001	7		FK-04	Vern.
0.063	+/-0.010	2عان،			4	n.
0.500	+/-0.010	<u>-500</u>	7		4	h
0.03 x 45°	+/-0.030	e03x45°	7		۸.	N
R0.016	+/-0.010	°012	>		ι,	*
Ø0.625	+0.005/-0.000	٥626	7		`	
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·						
	**					
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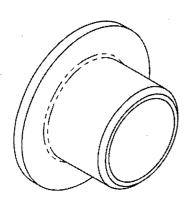
Measured by:	Audited by:	40	Prototype Approval:	N/A
Date: 13/11/1	S Date:	13/11/16	Date:	N/A

Rev	Date	Change	Revised by	Approv#d
Α	04.06.10	New Issue	KJ/JLM	
				<i>j j</i>



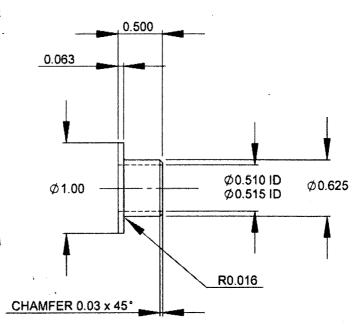
DESIGN DRAWN BY		1	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED		APPROVED	DRAWING NO.	REV. B
	ŢĦ	//	D2054	SHEET 1 OF 1
01.12.20		10.00	TITLE	SCALE
		12.20	BUSHING	1:1
	92.05.13		NEW ISSUE	
Α	01.06.05		CHANGE TOL. ON ID.	
В	01.12.20		REDRAW; ADD DELRIN OPTION; ADD NOTES	





## **ISOMETRIC DETAIL (SCALE 2:1)**

109091 MCZ



### **D2054 BUSHING**

MATERIAL: BLACK TEFLON

or BLACK UHMW
or BLACK DELRIN

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
ALL DIMENSIONS ARE IN INCHES

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